

CLAIMS

1. Junction system for joining a filiform element to a connection element, characterised in that it has a tubular element fitted on an end section of said filiform element and substantially having an eye for hooking said connection element.
2. Junction system according to the preceding claim, characterised in that said tubular element and said eye are made in a single piece.
3. Junction system according to the preceding claim, characterised in that said tubular element and said eye are made separately.
4. Junction system according to the preceding claim, characterised in that said tubular element has a curved section defining said eye, and at least a first substantially straight section distal from the head of said end section of said filiform element.
5. Junction system according to one or more of the preceding claims, characterised in that means for bonding said tubular element to said filiform element are present, in such a manner as to efficiently transfer the tensile stress force from said filiform element to said tubular element.
6. Junction system according to one or more of the preceding claims, characterised in that said means for bonding said tubular element to said filiform element comprise an adhesive or a chemical bond between said tubular element and said filiform element.

7. Junction system according to one or more of the preceding claims, characterised in that said first straight section of said tubular element has a predetermined length such that the tensile stress force is at least partially or completely transferred from said filiform element to said tubular element in correspondence with said first straight section of said tubular element.

8. Junction system according to one or more of the preceding claims, characterised in that said tubular element has a second substantially straight section proximal to the head of said end section of said filiform element.

9. Junction system according to one or more of the preceding claims, characterised in that said filiform element is of composite material.

10. Junction system according to one or more of the preceding claims, characterised in that the matrix of said filiform element of composite material is thermoplastic.

11. Junction system according to one or more of the preceding claims, characterised in that said filiform element is plastic.

12. Junction system according to one or more of the preceding claims, characterised in that said tubular element is steel.

13. Junction system according to one or more of the preceding claims, characterised in that said filiform element is in the form of a composite round bar.

14. Junction system according to one or more of the

preceding claims, characterised in that said filiform element is in the form of a plurality of composite round bars, aligned or intertwined among themselves.

15. Junction system according to one or more of the preceding claims, characterised in that said filiform element has a protective coating against ultraviolet rays and/or against attacks of chemical nature and/or against damage of mechanical origin.

16. Junction system according to one or more of the preceding claims, characterised in that said filiform element and/or said protective coating have a predetermined coloration for identifying the diameter of said filiform element and/or for visually indicating said filiform element.

17. Junction system according to one or more of the preceding claims, characterised in that said filiform element or said protective coating have length markers for facilitating the measurement of said filiform element during the making of the junction system.

18. Junction system according to one or more of the preceding claims, characterised in that it has means of locking said eye's closing.

19. Junction system according to one or more of the preceding claims, characterised in that said locking means are formed by a ring applied around the neck of said eye.

20. Junction system according to one or more of the preceding claims, characterised in that said tubular element has flared end edges.

21. Junction system according to claim 1, characterised in that it has removable connection means between said tubular element and said eye.

22. Junction system according to claim 21, characterised in that said connection means comprise a threaded stem which extends from said eye and screws into a first end of said tubular element.

23. Junction system according to any one claim 21 and 22, characterised in that it has an anti-unthreading element adapted to prevent the unthreading of said filiform element from a second end of said tubular element.

24. Junction system according to any one claim from 21-23, characterised in that said anti-unthreading element consists of a pin inserted axially in correspondence with the end of said filiform element positioned in said tubular element, and having maximum cross section greater than the internal clearance of said tubular element.

25. Junction system according to any one claim from 21-24, characterised in that said pin is conical or frustoconical.

26. Junction system according to any one claim from 21-24, characterised in that said filiform element is of composite thermoplastic material, directly or indirectly heatable to a softening temperature adapted to permit the penetration of said anti-unthreading element.

27. Junction system according to any one claim 1 or 2, characterised in that it presents means of screw connection

between the outer side surface of said end section of said filiform element and the inner side surface of said tubular element.

28. Junction system according to any one preceding claim, characterised in that said filiform element is axially hollow.

29. Junction system according to any one preceding claim, characterised in that said filiform element has a first section in poltruded longitudinal fibres comprising said end section on which said tubular element is fitted, and a second section extending from said first section in non-poltruded free or intertwined longitudinal fibres.

30. Procedure for achieving a system of junction of a filiform element to a connection element, characterised in that a tubular element is fitted on an end section of said filiform element, said tubular element shaped such that it defines an eye adapted to hook said connection element.

31. Procedure for achieving a system of junction of a filiform element to a connection element according to the preceding claim, characterised in that it utilises a filiform element in composite material of thermoplastic matrix, simultaneously heating said filiform element to a predetermined temperature in which said filiform element and said tubular element become malleable, in order to be shaped such to define said eye.

32. Procedure for achieving a system of junction of a filiform element to a connection element according to any one

preceding claim, characterised in that it joins said filiform element to said tubular element in order to transfer the tensile stress load from one to the other.

33. Kit for achieving a system of junction of a filiform element to a connection element, characterised in that it comprises one said filiform element, resistant to tensile stress, of thermoplastic composite material, one tubular element to fit on an end section of said filiform element, and a device for folding said tubular element having means of heating adapted to simultaneously heat said filiform element and said tubular element to a predetermined temperature in which said filiform element and said tubular element become malleable, in order to be shaped such to substantially define a hooking eye to said connection element.

34. Method for reducing the aerodynamic resistance of a filiform element subject to a fluid flux of variable direction, characterised in that attached along at least one section of said filiform element is at least one element with highly aerodynamic wing profile, supported and freely rotating around said filiform element such that it orients itself in the flux direction which impacts it.

35. Device for reducing the aerodynamic resistance of a filiform element subject to a fluid flux of variable direction, which is characterised in that it comprises at least one highly aerodynamic wing element attached along at least one section of said filiform element and supported and freely rotating around said filiform element such that it

orients itself in the flux direction which impacts it.

36. Device according to the preceding claim, characterised in that it is in the form of a wing-shaped foil, having elastically-pliable opposing edges for the snap-lock introduction of said filiform element inside said element with aerodynamic profile.

37. Device according to any one claim 35 or 36, characterised in that it is formed in plastic extrusion.

38. Device according to any one claim from 35-37, characterised in that said foil has at least a first extension projecting from the inner surface in order to join said foil to a precise point on the longitudinal length of said filiform element.

39. Device according to any one claim from 35-38, characterised in that said foil has a plurality of extensions projecting from its inner surface in order to join said foil to a precise point on the longitudinal length of said filiform element having substantially smaller diameter than that of the maximum chord of the curved part of said foil.

40. System and procedure of junction for uniting a filiform element to a connection element as described and claimed.